

APPENDIX

U.S. NUCLEAR REGULATORY COMMISSION
REGION IV

Inspection Report: 50-445/94-03
50-446/94-03

Licenses: NPF-87
NPF-89

Licensee: TU Electric
Skyway Tower
400 North Olive Street, L.B. 81
Dallas, Texas

Facility Name: Comanche Peak Steam Electric Station, Units 1 and 2

Inspection At: Glen Rose, Texas

Inspection Conducted: January 10-14, 1994

Inspector: Howard F. Bundy, Reactor Inspector, Plant Support Section
Division of Reactor Safety

Approved: _____


Les Constable, Chief, Plant Support Section
Division of Reactor Safety

1/31/94
Date

Inspection Summary

Areas Inspected (Units 1 and 2): Routine, announced inspection of the licensee's fire protection/prevention program and followup on a previous inspection finding.

Results (Units 1 and 2):

- The plant fire protection/prevention program and systems were generally functioning effectively (Section 1.7).
- Personnel interviewed were knowledgeable of and sensitive to fire protection program requirements (Section 1.7).
- Housekeeping was generally good. However, problems involving fuel oil in an unattended, open container in a diesel fire pump room and an electrical extension cord passing under a fire door seal were identified by the inspector (Section 1.7).

- Fire brigade members had received suitable training. Fire brigade turnout gear was thoughtfully placed on tree-like stands for efficient donning by the fire brigade members at the two turnout stations in the power block. However, the gear was not secured and the inspector observed that a flashlight was missing from one of the sets (Section 1.7).
- There did not appear to be a positive method for advising the fire brigade of fire protection system impairments which could impact its strategy for fighting a fire in specific equipment or a specific plant area. This was a potential fire brigade response weakness (Section 1.7).
- There was no fire preplan instruction available for the area in which a simulated explosion and fire occurred in a contaminated laundry trailer during an emergency drill observed by the inspector. If one had been available, the fire brigade response might have been altered. This deficiency was viewed as a fire preplan weakness (Section 1.7).
- Required fire protection program tests and inspections were being conducted. Corrective actions taken in response to identified deficiencies were not identified in several test and inspection data packages. This deficiency was viewed as a documentation weakness (Section 1.7).
- Quality assurance audits of the fire protection program were being conducted, and appropriate actions were being taken in response to identified deficiencies (Section 1.7).

Summary of Inspection Findings:

- Inspection Followup Item 445;446/9403-01 was opened (Section 1.3).
- Inspection Followup Item 446/9302-03 was closed (Section 2).

Attachments:

- Attachment 1 - Persons Contacted and Exit Meeting
- Attachment 2 - Documents Reviewed

DETAILS

1 FIRE PROTECTION/PREVENTION PROGRAM (64704)

1.1 Overview

The purpose of this inspection was to determine if the licensee was implementing a program for fire protection and prevention in conformance with regulatory requirements, the licensee's fire protection report, and industry guides and standards. In making this determination, the inspector relied primarily on conclusions reached during plant walkdowns, observation of fire protection related activities in progress, and review of inspection and test results.

1.2 Program Review and Implementation

The inspector reviewed a subject/procedure cross reference list developed by the licensee to ascertain that the licensee had issued procedural guidance for various subjects identified in the inspection procedure in the areas of combustible material control/fire hazard reduction, housekeeping, administration/fire control capabilities, and fire risk maintenance evolutions. To ascertain the effect of recent changes on the fire protection program, the inspector reviewed Revision 8 of the fire protection report, which was dated December 13, 1993. No problems were noted with regard to implementation of these changes. The inspector reviewed selected operations notification and evaluation (ONE) reports applicable to the fire protection program which were issued during the past year. Specific reports reviewed are listed in Attachment 2. Suitable corrective actions had been taken in response to the identified deficiencies.

1.3 Plant Walkdown

The inspector toured the site area to observe the main fire water supply system. The tour covered the fire water storage tank area, both diesel fire pump rooms, the electric fire pump room, and portions of the yard and power block water distribution system. The suction and supply valves, tank isolation valves, and selected valves on the main loop were observed to be properly aligned. The fire alarm panels generally indicated the normal operating status for the system. The few exceptions were properly documented by tags and work requests, and appropriate compensatory actions had been taken. Hose houses were in excellent condition and, along with the fire hydrants, fully accessible. The inspector observed approximately two gallons of diesel fuel oil unattended in an open bucket under a sample line in Diesel Fire Pump Room No. 2. The licensee was unable to determine why the fuel oil had been left unattended. The system engineer reported that it had not been observed during a tour conducted on December 28, 1993. The fuel oil was promptly removed for proper disposal by the licensee. This appeared to be an isolated lapse of control of a combustible liquid.

Accessible areas in the power block were toured to observe area conditions, work activities in progress, and visual conditions of fire protection systems and equipment. Fire detection and suppression systems were spot checked for proper lineup. Combustible materials and flammable and combustible liquid and gas usage were restricted or properly controlled in areas containing safety-related equipment and components. Items checked included status of fire alarm panels, positions of selected valves, fire barrier condition, hose stations, fire brigade lockers and turnout gear stations, and fire extinguishers for type, location, and condition. There was no welding, cutting, or use of open flame ignition sources found in the areas toured. The inspector observed that hydrogen gas flow into safety-related areas was restricted by excess flow check valves.

The inspector observed that Valve XFP-0511, which isolated a deluge system for charcoal filters on a reactor building exhaust filter unit (X-HV-4107E), was closed with a caution tag because of a leaking automatic valve. It was not clear how the fire brigade would deal with this impairment in the event of a fire in the charcoal. The close proximity of the closed isolation valve to the charcoal could make its operation difficult in the event of a charcoal fire. The licensee acknowledged that communicating impairments of important fire protection systems or equipment to the responding fire brigade was a generic concern and that they had no positive method for advising the fire brigade. A licensee representative stated that they were discussing their options for resolving this issue.

The inspector observed an electrical extension cord running under closed Fire Door S1-19A. The extension cord supplied power to a radiation monitor. It was determined that the licensee had issued a fire impairment permit for this door and it had been placed on a roving fire watch list. Routing the extension cord in this manner presented both fire and safety hazards and was viewed as a poor practice. This issue will be tracked as Inspection Followup Item 445;446/9403-01 pending further review by the NRC.

The inspector interviewed both continuous and roving fire watch personnel during the walkdown. The individuals interviewed were familiar with the administrative requirements for fire watches, and they were knowledgeable of fire watch duties and the basics of fire suppression. The individuals expressed satisfaction with the level of training received and felt that it was adequate. The inspector also randomly interviewed other plant personnel encountered during the walkdown and determined that they were knowledgeable of and sensitive to fire protection program requirements.

The plant fire protection/prevention program and systems were generally functioning effectively. With the exception of the issues discussed above, housekeeping was good.

1.4 Fire Brigade Training\Drills

The inspector reviewed fire brigade training and drill records for on-duty fire brigade members. The records confirmed that all members had received the required initial training and periodic requalification training and drill participation. Most of the fire brigade members had received considerably more training than the minimum requirements. All members had received hands on training off-site annually. The inspector interviewed the fire brigade team leader and one team member and concluded that they were very satisfied with both the quantity and quality of training that they had received.

The inspector observed that fire brigade turnout gear was thoughtfully placed on tree-like stands for efficient donning by the fire brigade members at the two turnout stations in the power block. However, the gear was not secured and the inspector observed that a flashlight was missing from one of the sets. The inspector was informed that all personnel would be advised of the consequences of perturbing fire brigade turnout gear. Also, the licensee intended to place spare flashlights in locked cabinets at the turnout stations. The fire preplan instructions were indexed and tabbed to quickly turn to the appropriate instruction.

The inspector witnessed portions of an unannounced emergency response exercise on January 12, 1994. The initiating event was a simulated explosion and resulting fire in a contaminated laundry trailer located in a yard area. The five fire brigade members responded to the turnout area in less than 2 minutes and were properly attired and on their way to the fire in less than 10 minutes. Two way radios were used effectively for communications. The fire brigade leader checked for a fire preplan instruction for that area and found none. The fire brigade generally reacted appropriately to the fire aspects of the drill. They failed to receive information that the fire had been caused by an explosion. The fire brigade members interviewed stated that they would have reacted differently if they had known explosives were involved. It appeared that a fire preplan instruction could have made the response more efficient. The fire brigade leader stated that, in retrospect, he would have asked a non-fire brigade member to drive the fire truck. The truck driver had to remove turnout gear to drive the truck and then put it back on when he reached the fire scene and was needed to man a fire hose. Also, the fire truck would not have been useful without help from a non-fire brigade member. Without the fire truck, additional hose would have been required to reach the fire hydrants. Although existence of a fire preplan instruction for a nonsafety-related area is not a regulatory requirement, failure to have one was viewed as a weakness. These issues and others were appropriately covered in the subsequent debriefing.

1.5 Surveillance Tests and Inspections

The inspector reviewed the results of selected tests and inspections performed in the past year to verify that:

- The fire detection and suppression systems met the Fire Protection Report operability testing requirements,
- Operability for these systems had been satisfactorily demonstrated at the required frequencies, and
- Periodic inspections were performed to demonstrate compliance with the fire protection program administrative requirements.

The inspector reviewed the surveillance test and inspection packages listed in Attachment 2. The inspector found that surveillances required by the fire protection report were being conducted at the required frequencies. The licensee was also conducting monthly inspections to ascertain compliance with the administrative requirements of the fire protection program. Informal inspections were being conducted more frequently. It appeared that appropriate actions had been taken to correct identified deficiencies. However, it appeared that the actions taken were not always timely. For instance, Fire Extinguisher CP2-FPFESH-08 was identified as having an expired inspection tag in Work Order (WO) 3-93-324294-07 completed on August 5, 1993. The same problem was also identified in WO 3-53-324294-07 completed on August 30, 1993. Also, the actual corrective actions taken were frequently not stated. This was the case for the two WOs discussed above. WO 3-93-319069 covered the quarterly battery inspection for Diesel Engine Driven Fire Pump X-05. In the data, it was noted that a crack was found on top of Bank 1, Battery 1 Left. The only information entered in the "Corrective Action Taken" block was "perform quarterly battery inspection." The licensee was unable to determine if any action had been taken in response to this note. In response to the inspector's questions, the system engineer reinspected the battery and could find no crack.

Failures to properly document corrective actions taken, and any subsequent reinspections, were noted in several of the test and inspection results packages reviewed by the inspector and were viewed as weaknesses. However, no operational deficiencies for fire protection systems or equipment were identified. The inspector learned that similar issues had been raised by the licensee's quality assurance (QA) department. The inspector observed that documentation of corrective actions taken and reinspection or retest results was more complete in recent test and inspection results packages.

1.6 Fire Protection QA

The inspector determined that periodic QA audits of the fire protection program were being conducted by the licensee. The inspector reviewed QA Audit Report QAA-93-102, Operations Fire Protection Program." The audit was conducted during the period of January 7 to February 3, 1993. It covered the areas of transient combustion and ignition sources, fire watches, flammable/combustible materials and compressed gases, Thermo-Lag, impairments, condition and testing of fire protection systems/equipment, fire brigade, and fire preplan instructions. Discrepancies identified were formally presented

to the responsible organizations. Responses were tracked to closeout, and the actions taken were reviewed for adequacy by the appropriate organizations. The report suggested that more attention by management could be focused toward the fire protection program implementation. Based on an apparent improvement in plant material condition, the inspector perceived that this suggestion had been implemented.

The inspector followed up on Audit Deficiency FX-93-345, which related to transient combustible problems. The inspector noted that Procedure STA-719, "Non Radioactive Waste Management," had been revised on June 25, 1993, to address the identified problems. The deficiency was open pending verification by QA.

1.7 Conclusions

The plant fire protection/prevention program and systems were generally functioning effectively. Personnel interviewed were knowledgeable of and sensitive to fire protection program requirements. Housekeeping was generally good. However, problems involving fuel oil in an unattended, open container in a diesel fire pump room and an electrical extension cord passing under a fire door seal were identified by the inspector. Fire brigade members had received suitable initial and requalification training. Most fire brigade members had received considerably more than the minimum required training. Fire brigade turnout gear was thoughtfully placed on tree-like stands for efficient donning by the fire brigade members at the two turnout stations in the power block. However, the gear was not secured and the inspector observed that a flashlight was missing from one of the sets. There did not appear to be a positive method for advising the fire brigade of fire protection system impairments, which could impact its strategy for fighting a fire in specific equipment or a specific plant area. This was a potential fire brigade response weakness. The fire brigade generally reacted appropriately to the fire aspects of an emergency drill observed by the inspector. There was no fire preplan instruction available for the area in which a simulated explosion, and fire occurred in a contaminated laundry trailer during the drill. If one had been available, the fire brigade response might have been altered. This was viewed as a fire preplan weakness. The required fire protection program tests and inspections were being conducted. However, corrective actions taken in response to identified deficiencies were not identified in several test and inspection data packages. This deficiency was viewed as a documentation weakness. QA audits of the fire protection program were being conducted, and appropriate actions were being taken in response to identified deficiencies.

2 FOLLOWUP (92701)

(Closed) Inspection Followup Item 446/9302-03: Configuration Control Issues Identified During Preoperational Testing

This issue involved a concern that vendor drawings which do not indicate options selected by the licensee could be confusing to field personnel. Licensee representatives studied the problem further and responded with a telephone conference on January 20, 1994, during which they presented an action plan to upgrade vendor drawings. They identified the need to improve the procedure for describing selection of vendor options. To accomplish this objective they presented the following action plan:

- * Review the current process for depicting vendor options selected.
- * Review a sample of vendor drawings for plant equipment to determine how vendor options selected have been identified.
- * Develop enhancements to the procedure for identifying vendor options selected and implement by February 28, 1994.

Implementation of the commitment to provide additional guidance in the enhanced procedure for identifying selected vendor options should resolve this issue.

ATTACHMENT 1

1 PERSONS CONTACTED

1.1 Licensee Personnel

- *J. Barker, ISEG Manager
- *G. Beckett, Consulting Fire Protection Engineer
- *O. Bhatti, Regulatory Compliance
 - B. Brixey, System Engineering
 - D. Carter, Industrial Safety Training
 - B. Crowe, System Engineer
- *D. Fisher, Senior Fire Protection Technician
- *B. Grace, Safety Services Manager
 - W. Guldmond, System Engineering Manager
- *D. Heintz, Industrial Safety Training
- *N. Hood, Emergency Planning Manager
- +T. Hope, Regulatory Compliance Manager
- *B. Lancaster, Plant Support Manager
- *R. Locke, Senior Engineer
 - F. Madden, Mechanical Engineering Manager
- *D. McAfee, QA Manager
- +G. Merka, Regulatory Affairs
- *J. Meyer, NSSS and HVAC Mechanical Engineering Supervisor
- *J. Muffett, Station Engineering Manager
- *J. Patton, Nuclear Overview
- *J. Roberts, Senior Fire Protection Technician
- *D. Sandlin, Senior Fire Protection Technician
- *W. Scott, Senior Fire Protection Technician
- *M. Smith, System Engineering Supervisor
- #M. Sunseri, Maintenance Engineering Manager
- *R. Wakeman, Fire Protection Supervisor
- #D. Walling, Electrical Engineering Manager
 - B. Winters, Performance Test Supervisor
- *R. Withrow, Component Test Supervisor
- T. Wright, Senior Engineer
- C. Yates, Staff Assistant, Maintenance

1.2 NRC Personnel

- *D. Graves, Senior Resident Inspector
- G. Werner, Resident Inspector

In addition to the personnel listed above, the inspector contacted other personnel during this inspection period.

- * Denotes those personnel that attended the exit meeting on January 14, 1994.
- # Denotes those personnel that participated in the telephone conference on January 20, 1994.
- + Denotes those personnel that attended the exit meeting and participated in the telephone conference.

2 EXIT MEETING

An exit meeting was conducted on January 14, 1994. During this meeting, the inspector reviewed the scope and findings of the report. The licensee did not express a position on the inspection findings documented in this report. The licensee did not identify as proprietary any information provided to, or reviewed by, the inspector. The licensee initiated a telephone conference on January 20, 1994, to provide additional information concerning the inspection followup item discussed in Section 2. Also, the inspector initiated a telephone call to Mr. Merka, TU Electric Regulatory Affairs, on January 24, 1994, to identify the fire impairment issue discussed in Section 1.3 as an inspection followup item.

ATTACHMENT 2

DOCUMENTS REVIEWED

Letter TXX-93413, TU Electric to NRC, "Transmittal of Fire Protection Report, Revision 8," dated December 13, 1993

Report, "Fire Protection ONE Forms 1993," dated January 10, 1994

Report, "Fire Protection Testing Requirements," dated December 30, 1993

Memorandum CPSES-9303691, J. M. Ayers to J. J. Kelley, "Transmittal and Acknowledgement of TU Electric Operations QA Audit Report QAA-93-102 Operations Fire Protection Program," dated February 19, 1993

Work Order (WO) 3-93-324294-07, "FIR-202/301/309 Visual Inspection," accepted August 5, 1993

WO 3-93-324294-08, "FIR-202/301/309 Visual Inspection," accepted August 30, 1993

WO 3-93-324294-09, "FIR-202/301/309 Visual Inspection," accepted October 1, 1993

WO 3-93-32429-10, "FIR-202/301/309 Visual Inspection," accepted October 29, 1993

WO 3-93-324294-11, "FIR-202/301/309 Visual Inspection," accepted December 3, 1993

WO 3-93-324294-12, "FIR-202/301/309 Visual Inspection," accepted January 5, 1994

WO 3-93-320353-07, "FIR-202/301/309 Visual Inspection," accepted August 5, 1993

WO 3-93-320353-08, "FIR-202/301/309 Visual Inspection," accepted August 30, 1993

WO 3-93-320353-09, "FIR-202/301/309 Visual Inspection," accepted September 29, 1993

WO 3-93-320353-10, "FIR-202/301/309 Visual Inspection," accepted October 29, 1993

WO 3-93-320353-11, "FIR-202/301/309 Visual Inspection," accepted November 30, 1993

WO 3-93-320353-12, "FIR-202/301/309 Visual Inspection," accepted January 5, 1994

WO 3-93-321143-06, "FIR-202/301/309 Visual Inspection," accepted July 9, 1993

WO 3-93-321143-07, "FIR-202/301/309 Visual Inspection," accepted August 23, 1993

WO 3-93-321143-08, "FIR-202/301/309 Visual Inspection," accepted September 4, 1993

WO 3-93-321143-09, "FIR-202/301/309 Visual Inspection," accepted October 19, 1993

WO 3-93-321143-10, "FIR-202/301/309 Visual Inspection," accepted November 15, 1993

WO 3-93-321143-11, "FIR-202/301/309 Visual Inspection," accepted December 16, 1993

WO 3-93-306457-07, "FIR-202/301/309 Visual Inspection," accepted August 5, 1993

WO 3-93-306457-08, "FIR-202/301/309 Visual Inspection," accepted September 13, 1993

WO 3-93-306457-09, "FIR-202/301/309 Visual Inspection," accepted October 8, 1993

WO 3-93-306457-10, "FIR-202/301/209 Visual Inspection," accepted November 8, 1993

WO 3-93-306457-11, "FIR-202/301/209 Visual Inspection," accepted December 8, 1993

WO 3-93-306457-12, "FIR-202/301/209 Visual Inspection," accepted January 7, 1994

Operations Notification and Evaluation (ONE) 93-0210, "Sealant Material Failed Density Test," initiated January 20, 1993

ONE 93-0269, "Fire Dampers in Unit 1 and X Not Inspected Per Fire Inspection Report, Section H," initiated January 26, 1993

ONE 93-074, "Fire Protection Obstruction Level Sprinkler Coverage," initiated January 8, 1993

ONE 93-2466, "Door T-26 Missing," initiated December 21, 1993

ONE 93-0142, "Deluge Valve on Auxiliary Transformer Failed to Actuate During Flow Test," January 15, 1993

Memorandum CPSES-93/6682, D. M. Heintz to R. Wakeman, "Fire Brigade Requalification Training," dated October 26, 1993

Report, "Fire Brigade Initial Training," dated January 7, 1994

Report, "Fire Brigade Requalification Topics," dated December 14, 1993

Fire Protection Report (FPR) Section 2.1.a.3, Item 2.b.3, "Operability Check Smoke Detector LV-30," WO 3-93-319231-01 completed August 30, 1993

FPR Section 2.1.a.4, Item 2.b.4, "Operability Check UV Detectors LV-32," WO 3-93-313470-02 completed August 10, 1993

FPR Section 2.1.a.5, Item 1.a.1, "Circuit/Zone Test LV-33A," WO JB9310060035, completed September 16, 1993

FPR Section 2.1.b.2.a.2, Item 11.b.1, "Diesel Fire Pump (DFP) Start/Run Test (05 & 06)," WO 3-93-312553-50 (05), completed December 16, 1993; WO 3-93-312553-51 (05), completed December 23, 1993; WO 3-93-312553-52 (05), completed December 30, 1993; WO 3-93-312553-49 (05), completed December 10, 1993; WO 3-93-312554-50 (06), completed December 10, 1993; WO 3-93-312554-51 (06), completed December 16, 1993; WO 3-93-312554-52 (06), completed December 23, 1993; WO 3-93-312554-53 (06), completed December 30, 1993

FPR Section 2.1.b.3.c.2, Item 11.c.3, "Battery Maintenance on DFPs," WO 3-93-319069-03 (05), completed November 22, 1993; WO 3-93-319070-03 (06)

FPR Section 2.1.c.3.a, Item 7.dv, "Full Trip Test Ventilation Filters," WO 3-92-301149-01, completed December 1, 1992

FPR Section 2.1.c.3.a.1, Item 8.e, "Full Trip Test Train B Switchgear Room Fire Protection Deluge Valve," WO 3-93-317665-01, completed July 29, 1993

FPR Section 2.1.c.3.b, Items 8f and 7f, "Visual Inspection of Headers and Spray Patterns," WO 3-93-326041-01, completed September 16, 1993; WO 3-93-326042-01, completed October 26, 1993

FPR Section 2.1.d.2.b, Item 10.e, "Cable Spreading Room Halon Air Flow Test," WO 3-92-325800-01, completed March 4, 1993

FPR Section 2.1.e.2.d, Item 16.f, "Control Room Deluge Valve XFP-0742T Test," WO P910003189, completed October 8, 1991